

# SKL

Fastening systems



Pandrol SKL is a resilient, screwed-direct fastening for concrete sleepers. Simple, reliable and safe, it is proven solution for ballasted track in many countries.

The rail seat assembly is typically made up of two tension clamps (SKL clips) on top of angled guide plates on each side of the rail. The guide plates are located in recesses on the concrete surface, securing the rail horizontally and transferring lateral loading to the sleeper. A pad under the rail provides layer to attenuate impact and electrical resistance. Everything is held down with screws in concrete dowel inserts.

Custom configurations are possible, for example for dual gauge and turnout sleepers. Theft-resistant screw heads are also available.

## → TECHNICAL FEATURES

### **Gauge adjustment**

Changing the size of the angled guide plates enables the rail to be moved laterally in the rail seat to achieve a wider or narrower gauge as required.

### **Captive fastening**

The fastening can be pre-assembled on sleepers in the factory and transported as a complete unit. Once on site, the SKL clips simply need to be loosened and moved from parked position to working position after the rail has been threaded, then fully torqued up.

### **Removable dowels**

Removable dowels are available as an upgraded specification, which can be replaced if they become damaged as a result of high-frequency use over time.

### **Clamping force**

By simply reducing or increasing the installation torque of the screw within limits, the clamping force can be varied.

### **Track stiffness**

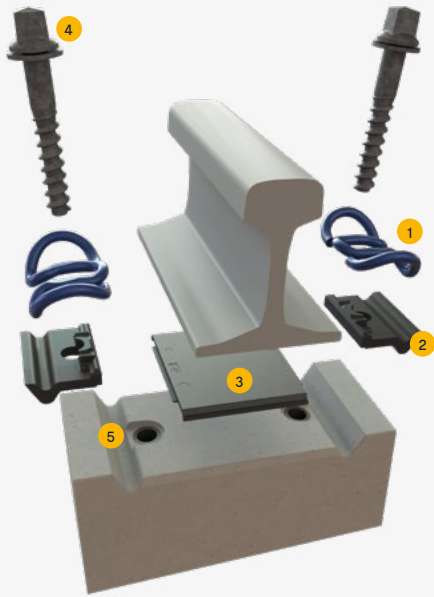
By changing the rail pad, assembly stiffness can be modified between 50kN/mm and 500kN/mm.

### **Overturning stop**

The clip's central loop acts as an integrated safety mechanism that will only make contact with the rail when the clip arms are overloaded.

## → ADVANTAGES /

- The gauge can be adjusted simply by swapping components. This removes the need for different sleepers when gauge widening or redemption is needed.
- Captive fastening reduces handling and, as a result, the risk of losing components. Efficient installation and maintenance save time and money.
- All components are replaceable (even the concrete dowel), which limits maintenance costs to the affected components rather than the whole sleeper.
- The ability to vary clamping force means that longitudinal restraint can be changed where necessary for specific areas of the track.
- Adjusting fastening stiffness allows overall track stiffness targets to be met, even when these change over time.
- The overturning stop keeps the rail located securely and protects the clips from overstretching and ultimately failing.



## → COMPONENTS /

1. SKL clip
2. Angled guide plate
3. Rail pad
4. Screw with washer
5. Concrete dowel insert

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